

WHAT IS CLAIMED IS:

1. A well structure in a high voltage device, comprising;  
a first well formed in a substrate, the first well having an opposite  
conductive type from the substrate;  
5 a second well isolated from the first well, the second well having the  
same conductive type as the substrate;  
a field stop implant region formed between the first well and the  
second well and spaced apart from each of the first well and the second well  
by a given distance, the field stop implant region having the same conductive  
10 type as the substrate; and  
a pick-up region overlapped on the field stop implant region, the pick-  
up region having the same conductive type as the field stop implant region.
2. The well structure as claimed in claim 1, wherein the substrate is a P  
15 type substrate.
3. The well structure as claimed in claim 1, wherein the first well is an  
N-well into which phosphorous (Ph) is implanted.
- 20 4. The well structure as claimed in claim 1, wherein the second well is  
a P-well into which boron (B) is implanted.
5. The well structure as claimed in claim 1, wherein the field stop  
implant region is formed by implanting boron (B).

6. The well structure as claimed in claim 1, wherein the spaced distance between the first well and the field stop implant region is in the range of 0.5  $\mu\text{m}$  to 1.5  $\mu\text{m}$ .

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7. The well structure as claimed in claim 1, wherein the spaced distance between the second well and the field stop implant region is 0.5 to 1.5  $\mu\text{m}$ .

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8. The well structure as claimed in claim 1, wherein the pick-up region is formed by implanting boron (B) with high concentration.